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Nutrition support nursing handoff: a computerized template

Suzanne L. Bundrick
Augsburg College

NUTRITION SUPPORT NURSING HANDOFF: A COMPUTERIZED TEMPLATE

SUZANNE L. BUNDRICK

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This is to certify that **Suzanne Bundrick** has successfully defended her Graduate Project entitled **"Nutrition Support Clinical Handoff: A Computerized Template"** and fulfilled the requirements for the Master of Arts in Nursing degree.

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Committee member signatures:

Advisor: Joyce L. Miller Date June 18, 2015

Reader 1: Pauline J. Abraham DNP, RN Date June 18, 2015

Reader 2: Sue Hoff DNP, RN Date July 16th, 2015

Abstract

At a large Midwest private nutrition support practice, a manual reporting tool has been the communication practice used in daily handoff practices. For patients who require consultation from the Nutrition Support Consulting Service, accurate communication of the nutrition plan of care among members of the health care team is a critical element of patient care and safety. Because communication errors are a leading cause of sentinel events for patients, having a safe transfer of care from nurse to nurse each day is imperative. A nutrition support computerized handoff template not only creates continuity of care among team members, it also results in patient safety and improved standardization of patient nutritional information daily via a computerized template. Using the computer for nutrition support nursing handoff promotes trust among coworkers and optimizes patient interaction as less time is spent manually documenting patient data. Watson's Caring Theory and the concept of intentionality provide a framework for implementing the computerized handoff template. A conceptual metaphor of a relay runner with baton provides a visual for the goals of a computerized handoff template that integrates caring intentionality and relationships into practice. The use of a standardized reporting tool in the computerized handoff template for nutrition support nurses will be evaluated through colleagues' feedback and a confidential interview with a nursing administrator. Nurses who implement the computerized handoff template into their practice will produce a more efficient method of recording patient data while demonstrating greater commitment to the caring acts that encompass nursing practice.

Keywords: nursing handoff, computerized template, implementation, patient safety, reporting tool, standardization, Watson's Caring Theory

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Dedication

This work is dedicated in loving memory to my dear parents William and Faye Snow who always taught me to reach for the stars. Mother, a nurse herself, taught me much about compassion. Her loving touch and anticipating the needs of others was a perfect model for my nursing practice. Father was the model of sacrificial love and dedication to his family and his work; you are my hero. Finally, to my God, "I give thanks to you, for you have given me wisdom and might" to finish strong.

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Chapter One: Introduction

Clinical communication among nurses providing patient care is a vital component of continuity and function in the delivery of health care in the hospital. For patients who require consultation from the Nutrition Support Consulting Service (NSCS), accurate communication of the nutrition plan of care among members of the health care team is a critical element of patient care and safety. Specific and complex nutritional information is regularly updated on these plans, and precise and timely communication of these recommendations is crucial. "One of the leading causes of medical errors is a breakdown in communication. In the era of collaborative practice, effective clinician to clinician communication is important to facilitate continuity of care, eliminate preventable errors, and provide a safe patient environment" (American College of Obstetricians and Gynecologists, 2012, p 408). The risk of inaccurate handoffs exists in all areas of nursing. In a practice where one nurse or team member is providing information from one day to the next via computer, not face-to-face, the handoff has a heightened concern in continuity of care. The communication practice model currently used in a large Midwest hospital among the nutrition support team has led at times to a breakdown of communication where vital elements of care have been neglected to be passed on. Clinical handoffs refer to the "transfer of professional responsibility and accountability for some or all aspects of care for a patient, or groups of patients, to another person or professional group on a temporary or permanent basis" (British Medical Association, 2011, p 21). Handoffs permeate the health-care system and can occur at shift changes when clinicians take breaks when patients are transferred within

and between hospitals and during admission, referral or discharge. The Joint Commission (2011) stated the following:

> Across health-care settings current handoff processes are highly variable and potentially unreliable. Thus, patient handoff has been recognized internationally as a high-risk area for patient safety, and a number of initiatives aimed at handoff improvement have been launched. For example, prevention of handoff error is one of the five solution areas of the 'High 5s initiative,' a mechanism established in 2006 through collaboration between the Commonwealth Fund, the WHO World Alliance for Patient Safety and the World Health Organization (WHO) Collaborating Centre for Patient Safety to implement innovative patient safety solutions over 5 years. (p. 120)

Watson's (1999) Theory of Human Caring and the concept of intentionality guide this proposed project. Watson explained that nursing with intentionality can no longer focus on medical procedures or task-oriented measures only. With the ever-increasing changes in healthcare and the need for the continuity of care with patients, the practice of intentionality is more important than ever. To practice intentionality includes caring deeply about a patient and seeking to understand what important patient-focused values and meaning to include in the plan of care. Intentionality seeks to identify deeper sources of meaning to the task oriented nursing care that is important in the daily care of each patient. Consequently, formulating a computerized handoff template and implementing a standardized reporting tool for the NSCS would enhance communication within the nutrition support team and ultimately improve patient safety.

Background

The context in which the NSCS clinical handoff would occur is a consultation service in a large Midwest hospital where nurses receive and give report on five to seven patients each shift. The nutrition support total patient load is about 18 to 22 patients The NSCS consists of three nutrition support nurses, three to four dietitians, one pharmacist, and a medical doctor. The patient population cared for has a variety of diagnoses ranging from cancer to Crohn's disease all with a concern of malnutrition or who meet the definition of malnutrition and need medical intervention as a result. The current process for the clinical handoff has many components through which the nurses learn about their patient assignment and obtain information about their patients' status. Each NSCS team member follows an average of five to six patients a day. Members are responsible to communicate the nutritional plan of care for the primary service, either through verbal contact or through a written progress note with any changes to the nutritional care plan for the primary service. The NSCS nurse, who acts as the coordinator of the team, assigns patients to the team members. As new medical doctors rotate to the NSCS, the nurse assigns patients based on consult requests, as well as, on balancing team members' assignment loads. For example, if nutritional education on diet is necessary, then the patient is assigned to a dietitian. If a percutaneous enteral gastrostomy (PEG) tube consult is needed, the patient is assigned to a nurse. The NSCS team works closely together and often overlaps duties for each patient. For example, a nurse may perform site care or education on the PEG tube care, and the dietician will provide diet education to the same patient. Each team member, however, is responsible for knowing critical details of each patient in case of an emergency and for anticipating patient or team member

needs.

The NSCS determines whether nutrition support is indicated, the feeding route used, the nutrition program tailored to the patient, and the appropriate metabolic monitoring program (Wilson et al., 2005) The team utilizes a computer application, Feeding Effectively using Electronic Data (FEED) to collate patient nutritional data. The FEED subsystem was developed in 1999 to assist in the implementation of the Midwest medical center's nutritional guidelines. Team members arriving for their day access the FEED sheet electronically. The FEED system is used to maximize patient safety, standardize nutrition care, and increase the efficiency of patient rounds involving the NSCS. Secondary goals of the FEED system are to analyze the use of parenteral nutrition (PN), NSCS workload data, and facilitate clinical research.

According to Wilson et al. (2005), the FEED system is used on the NSCS to evaluate whether the current nutrition of a patient is appropriate. The FEED system provides information regarding parenteral nutrition, daily laboratory data, and medications that affect nutrition. Team members can access FEED daily and gain access to information related to nutrition such as organ function, laboratory tests, and serum laboratory values that may need to be considered when constructing a nutritional plan for a patient. Free-text nutrition notes can be manually entered to enhance communication and the continuity of care. The FEED subsystem displays body mass index, estimated lean weight, creatinine clearance, and the Harris-Benedict equation (an equation used to determine daily calorie needs)—all used in the development of patient nutritional programs. A specialized calculator can compute a PN formula, including maintenance fluid volume, osmolality and, if necessary, a fluid-restricted PN formula. The primary

objective of the FEED system is to enhance reporting and communication between team members.

Once the FEED sheet is obtained and reviewed, a team member then can proceed in accessing the electronic medical record (EMR) to obtain information regarding their patients. The EMR holds historical and current health-related information about a patient and is helpful in gathering knowledge regarding pertinent lab results, progress notes, assessment documentation, and physician orders. A team member will spend time reviewing the EMR as well as the nutritional record communicator (NRC), which is the shift summary from the previous day. The NRC is intended to give a brief overview of nutrition specific information that may be helpful to the incoming team member. However, its content reliability is at the discretion of the team member, creating risk for pertinent information being omitted and biased reporting. Currently, the NSCS team member who writes the nutrition summary determines the NRC content. The NRC has no standardized format and lacks a common structure. The current content for most NRCs identifies the diagnosis; reason for consult; brief medical history; degree of malnutrition; and the need for nutrition support, whether oral, enteral or parenteral nutrition. It also includes scheduled procedures pertinent to nutrition support, discharge planning and indicates if the patient will need nutrition outside of this hospitalization.

The goal of this project is to implement a team member handoff that provides an opportunity for standardization of nutrition support information. The development of a standardized reporting tool will help decrease handoff errors using computerized templates. The reporting tool will address the importance of nurses being authentically present and exhibiting caring relationships with those they encounter. Although there is

significant value in ensuring that communication between team members is effective and promotes safe transfer of care, a nurse-patient relationship is equally as important. Creating a standardized approach for the NSCS team member to effectively provide shift-to-shift handoffs creates an opportunity for team members to communicate the necessary information to keep patients safe and provide accurate nutrition plan of care.

Significance of the Project

Patient care is an inherently communicative activity. It is therefore not surprising that communication issues are among the most frequent contributing factors of adverse events identified in the retrospective adverse-event analysis (Suresh et al., 2004). Several observational studies highlight the frequency and negative consequences of communication breakdowns. In a study by Lingard et al. (2004),

> trained observers recorded 90 hours of observation during 48 surgical procedures. Ninety-four team members from anesthesia and thirty-one from the department of nursing participated. Field notes recording of relevant communication events were analyzed. The results showed 421 communication events, of which 129 were categorized as communication failures. The conclusion was made that communication breakdown occurred in 30% of cases and one-third of those resulted in effects that jeopardized patient safety. (p 332)

According to Beach, Croskerry, and Shapiro (2003), "Communication processes are particularly vulnerable at organizational interfaces" (p. 365) such as care transitions and shift changes. The increasing recognition of the critical importance of clinical handoff to the quality and safety of care is supported by sites tracing the causes of adverse events, in inadequate handoff and coordination of care (Beach et al., 2003).

Borowitz, Waggoner-Fountain, Bass, and Sledd, (2008) found that 31% of residents indicated something happened while they were on call that the handoff had not prepared them for caring for in caring for a patient.

Until recently, the clinical handoff has seldom been studied systematically. This is in stark contrast to other high-risk industries, such as the airlines, in which handoffs have received considerable attention of human factors (Patterson, Roth, Wood, Chow, & Gomes, 2004). Because patient handoffs have been identified as a critical process to investigate to improve patient safety, there has been a substantial increase in recent research activity (Kalkman, 2010).

By implementing a clinical handoff model for nutrition support practice, nurses can gain better insight on prioritizing care when they review the chart, a patient's plan of care and visit the patient on rounds. Providing accurate information is particularly important as nurses are working at a fast pace and often have to retain a lot of information at one time. A precise and accurate handoff model helps eliminate report content that digresses to judgmental statements and avoids the potential development of negative preconceptions about a patient. A clinical handoff model reflects teamwork, enhances staff relationships, and sets the tone for providing positive, safe care from one nurse to the next.

Nursing Theoretical Foundation

Nursing theorist Jean Watson (2008) introduced the concept of caring and its implications for the nursing profession, addressing the importance of nurses building meaningful, trusting, collaborative relationships with their patients. Caring is directly related to how a caretaker accepts a person and his or her choices, including nutritional

status. The concept of caring from a theoretical perspective offers patients an opportunity to feel valued, involved, and connected with their NSCS team member. From a practical perspective, the NSCS team member demonstrates caring when assisting a patient with meeting daily nutritional needs by providing supplemental drinks, counting calories, and offering to order foods the patient desires when the patient is unable to do that. Watson described this concept as Caring Science, which provides a framework that encompasses the discipline of nursing when caring acts are present and are a complement to the science of curing. Caring Science can be practiced interpersonally but is also used to relate to one another, which creates interconnectedness between humans that enhances healing and growth. It is the concept of caring that helps the NSCS person to see that the mundane tasks performed on a daily basis for patients is crucial in the care of patients.

Watson's (2008) concept of a transpersonal caring relationship is a nurse's ability to be mindful, intentional, and purposeful in protecting human dignity and integrity while caring for patients receiving nutrition support. This relationship reflects a nurse's engagement with a patient's inner self and moves beyond the present moment. When the NSCS team member cares for a patient, he or she must view the patent as a human being with personal dignity by looking deeper at the inner person. It is essential to build a relationship with a patient that goes beyond just nutritionist and patient. For example, in the short term, a goal of increasing calorie intake has a long-term effect in aiding the patient's future health. The transpersonal caring relationship stems from the Caritas consciousness and suggests an intentional effort for the nutrition support nurse to be aware and sensitive to all elements that make up the patient's environment (Watson, 2008). Observing the patient's environment to optimize a pleasing environment that aids

in an increased appetite, helping to order foods pleasing to the patient, and sitting down at the patient's side when discussing nutritional plans are a few examples. According to Watson (2008), a shift to be patient-focused accentuates a deeper meaning of caring and love and authenticates meaningful and deliberate care while cultivating a higher level of interconnectedness. Nurses primarily enter patients' frame of reference and observe their verbal and nonverbal cues, which leads them to understand what matters most to a patient in the moment rather than focusing on nursing interventions or personal agendas.

Patient-focused care is presented in nutrition support when time is spent with patients asking how they are doing, trying to get to know them, and finding what motivates them to eat. Nurses practicing in the moment can strengthen the bond with patients and challenge themselves to use both intellect and intuition to guide practice. Transpersonal caring places less emphasis on tasks although they are not insignificant. It acknowledges the importance of being present in the moment during team member handoff and promotes a transpersonal bond that enhances meaning to health and healing. For many people, nutrition is very personal and to build a trusting bond with a patient is vital in a successful nutritional program.

The concept of caring intentionality incorporates caring acts that are intended to promote well-being. A nurse who intentionally provides a comforting touch for a patient receiving nutrition support can create a healing presence (Watson, 2008). Intentionality is seen when a nurse cares for a nutrition support patient in a way that enables the nurse and patient to experience a higher level of health as they work together to create a cohesive relationship. Some nutrition support patients are hospitalized for many days and if the nurse-patient relationship is not nurtured beyond the daily nursing tasks, then

there is a risk of the patient not complying with the nutritional program that many times is vital in their healing process. A person's attention to caring, healing, or curing practices has the potential to provide fulfilling patient-centered experiences. A nurse's intentionality in caring acts plays a vital role in the nurse-patient relationship but is also strengthened by surrounding nurses who practice the same intentionality with their patients. Furthermore, it is vital that NSCS team members each day internalize and carryout intentionality. The nutrition nurse who is engaged, authentically present with a patient and demonstrates a commitment to meeting a patient's individual needs aids the patient in promoting an environment of nutritional health and healing in the long run.

Watson's (2008) Caring Theory offers the nursing discipline an opportunity to transform nursing practice in places like nutrition support, from the first patient encounter to the last. This caring model demonstrates valid implications for the nursing profession and the experiences nurse help create for patients. Nurses enter the lives of many patients who need unconditional support, compassion, and deliberate care. Practicing intuitiveness and considering variable ways to approach patient care are elements that make nurse-to-nurse handoff a potentially successful model of care. The implementation of a computerized handoff report model incorporates elements of patient safety, satisfaction, and caring to create a handoff experience that benefits nursing staff, patients and families. Addressing the required elements of the handoff process to ensure safe patient handling while incorporating Watson's theoretical concepts of caring intentionality is essential. Literature support, the focus of Chapter Two, provides a strong foundation for identifying best practices for implementation, addressing types of handoffs and creating a computerized template for the nutrition support handoff tool.

Chapter Two: Literature Review

Patient handoff refers to the information exchange that occurs when responsibility for a patient's care transfers from one clinician to another, namely nurses. A safe clinical handoff practice promotes continuity of care among team members. Because communication breakdown is a leading cause of medical errors in the hospital (Runy, 2008), it is essential for nurses to prevent a breakdown in communication during the clinical handoff. Therefore, it is essential to implement processes that clearly define the transfer of responsibility for one team member to another. Standardizing the communication process, along with the designing and implementing a standardized handoff tool will bridge the gap of communication breakdown. In the NSCS setting, clinical handoffs occur daily through written communication. An accurate clinical picture of a patient's situation promotes collaboration of care among team members when there is no breakdown in the process of transferring patient data. Developing a standardized clinical handoff process will improve continuity of care from caregiver to caregiver. This chapter will review literature that addresses nutrition support, communication from shift to shift, computerized tools for report and intentionality in the patient handoff process.

Definition of Nutrition Support

According to the American Society of Parenteral and Enteral Nutrition (ASPEN), (2015), people need food to live. Illness sometimes prevents a person from being able to eat. The stomach or bowel may not be working quite right, or a person may have had surgery on these parts of the body preventing supporting oneself with oral nutrition. When someone is unable to sustain nutrition by mouth, it may be administered in other

ways. Nutrition can be provided through a feeding tube, called enteral nutrition. A feeding tube may be used if a patient has trouble swallowing or to help provide supplemental calories to aid in weight gain. When the digestive tract cannot be used in situations where the gut is not absorbing calories, nutrition may be administered through the vein, also called parenteral nutrition. The goal is to provide nutrition in the appropriate route, with the appropriate amount of calories, and aid in nutritional support for a patient.

NSCS professionals provide care to patients in many different settings. Some patients meet with nutrition support professionals in an outpatient setting. Some professionals offer support to patients while they are in the hospital. These professionals include dietitians, pharmacists, nurses, and physicians who may work either independently or as part of a nutrition support service or team. These specialists provide and manage enteral and parenteral nutrition in diverse patient populations of all ages (ASPEN, 2015).

NSCS professionals who work in the clinical setting may provide enteral or parenteral nutrition to patients. Enteral nutrition introduces a feeding tube into the stomach or small intestine. In the case of a nonfunctioning gastrointestinal tract, parenteral nutrition is provided through the veins. The age of patients needing nutritional support can range from infancy to adulthood. Nutrition support professionals (NSP) may work independently or in a collaborative practice working with other professionals. NSPs care for patients who are not able to meet nutritional needs through oral intake. NSPs are taught on the job and may find resources such as American Society of Parenteral and Enteral Nutrition (2015) useful to contact other nutrition support providers

or written resources. Certification is available to measure the level of expertise of the nutrition support professional.

In a large Midwest hospital, the NSCS team consists of a physician, pharmacist, several dietitians, and nurses. The team acts as a consulting service to a patient and provides recommendations for nutritional supplementation as needed. While a patient is hospitalized, NSCS considers the degree of patient malnutrition, the need for a percutaneous feeding tube, or intravenous routes of nutrition. The NSCS is available 24 hours a day while patients are in the hospital. Because of the ongoing nature of the NSP service, the need for team members to hand off to one another is ongoing. It is essential that nutritional information be accurately relayed each day so that the optimum nutrition is achieved, and patients receive the nutrients necessary to heal. Because accurate communication in the handoff between nurses each day is a challenge, the possibility of a computerized handoff tool will be researched.

Communication

Handoffs occur during a moment when responsibility is transferred from one caregiver to another. In the era of work hour restrictions, handoff from one caregiver to another is on the rise. With the increase in handoffs communication can increase the risk of error when passing patient information from shift to shift or person to person. Many hospitals have begun to address errors in handoffs but still list ineffective handoffs near or at the top of nagging quality issues (McKinney, 2010). It was feedback from hospitals across the United States that led to the Joint Commission Center for Transforming Healthcare. In 2009, this quality improvement arm of the Joint Commission was formed to address issues that affect patient safety concerns. In a project, 10 participating

hospitals and health systems "worked with the Joint Commission to identify root causes and barriers to good handoff communication. Some of those barriers were found to be interruptions during handoff and inadequate or incomplete information" (McKinney, 2010, p 8). The goal in mind was to craft solutions for these barriers to improve patient safety.

Some of the most common causes of failure were designated as cultural barriers, such as one employee's lack of respect for another. Other barriers were "out-of-sync timing between the sender and the receiver, inability to follow-up, and lack of up-to-date information" (McKinney, 2010, p. 2). To overcome barriers, a standardized tool for capturing patient information was implemented and was designated as the success of effective communication between caregivers (McKinley, 2010, p. 3).

According to the Joint Commission (2007), an unprecedented number of medical errors were found in United States (US) hospitals. This led to a widespread national attention focused on improvement of patient safety and quality of care. "With more than 4800 sentinel events analyzed, the Joint Commission identified communication as the top-contributing factor to medical error. Handoffs were playing a role in an estimated 80% of serious preventable adverse events" (The Joint Commission 2007, p. 1).

Effective handoff and accurate communication are an important part of nursing practice to prevent patient error and provide patient-centered care. It is vital to cultivate a culture of safety in nursing routines that have patients as a priority. This focus is crucial to the participation of handoff information between caregivers. At the time of transferring care from shift to shift, careful attention to details must be communicated. With the known failures of communication, a threat to patient safety, the National Patient

Safety Goal has implemented a standardized approach to handoff communications by the Joint Commission (2008) to decrease handoff error.

Shift-to-Shift Report

Because patient handoff has been identified as a key process to investigate to improve patient safety, there has been a substantial increase in recent research activity (Kalkman, 2010). This activity is reflected in several reviews of the patient handoff literature published recently. Most studies focus on a particular type of handoff or a specific clinical setting, such as nursing handoff, physician handoffs in hospital settings or handoffs in the preoperative care process. The handoff practice has long been an important component of clinical nursing practice allowing nurses to exchange client information from one shift to the next and ensure continuity of patient care. Traditional approaches have seen nursing handoffs taking place in a patient's room. Oncoming nursing staff receives the information verbally from nurses on the previous shift about all patients within the ward or unit. This practice has been proven to present difficulties; according to McKenna and Walsh (1997), many hospitals are choosing to adopt models that better address current needs.

The traditional verbal handoff has a number of distinct advantages as it provides nurses with a forum for peer review and discussion of relevant ward issues. Parker, Gardner, and Wiltshire (1992) suggest verbal handoffs also provide opportunities for nurses to debrief situations arising. Wise (1994) identified the important function of allowing knowledge sharing and reflection to occur. Despite these advantages, disadvantages also exist. The adoption of verbal handoff methods leads to a potential for patients to "become packaged and stereotyped" by nurses (Parker et al., 1992, p.131). In

addition, staff may offer unprofessional and derogatory statements about patients (Wise, 1994).

Other handoff methods have been used in nursing practice. These include written approaches such as Kardex system, computer generated forms, tape-recorded handoffs or bedside handoffs (McKenna & Walsh, 1997). Written procedures allow for a reduction in handoff time and improve overall communication of pertinent client information (Reiley & Stengrevics, 1989). Tape-recorded handoffs also allow less time to be required for the handoff process through a reduction in interruptions, questions and breaks in the presenter's concentration (Wywialowski, 1993). The bedside handoff takes place at a patient's bedside and provides the unique dimension of providing a patient an opportunity to be involved. It also provides valuable visual information and allows a nurse to become more familiar with each patient and his or her particular problems (McKenna & Walsh, 1997).

Studies describing handoff practice show significant variation within and across health-care settings. Clinical handoff in an oral format, however, remains the primary source of patient information among nurses (Allen 1998: Pearson 2003). Many studies examining handoff practices focus on the actual handoff meeting and show that the handoff process is variable, unstructured and error prone (Messam & Pettifer, 2009). In a qualitative, observational study aiming at a description of postoperative anesthesia handoffs in the recovery room, Smith, Pope, Goodwin, and Mort (2008) found that anesthetists and recovery nurses often had different expectations concerning the content and timing of information transfer. They found that handoff communication was mostly informal. Furthermore, intra-operative problems were frequently underplayed in the

handoff.

A study assessing handoff quality based on recovery room nurses' perceptions after the handoff confirmed results on the often unorganized, variable communication process during patient handoff. According to Anwari (2002),

> only 32.6% of anesthetists attained maximum scores for the quality of verbal information. In 14% of handoffs, anesthetists failed to give any of the five required points of verbal information, whereas, in 33%, all five were given. Information regarding preoperative status was given in 40% of handoffs, on premedication in 36.6% on operation details in 20.7% on the intra-operative course and complications in 15% and on intra-operative analgesia in 63.8%. (p. 484)

Welsh, Flanagan, and Ebright (2010) studied both taped and written ends of shift reports to identify factors that either limited or facilitated the handoff process. Welsh et al. conducted a pilot study using short semi-structured interviews with nurses regarding the handoff process, the tools used during the process, and the ideas for improving handoffs. A sample of 20 nurses from a large veteran's administration medical center included both registered nurses and licensed practical nurses from two medical/surgical units and an intensive care unit. The nurses were interviewed in a semi-private room (break room) either individually or in pairs. Analysis of the interviews suggested six barriers and four facilitators to the end of shift handoff. Barriers identified included too little information provided during report, too much information given during report, inconsistent quality of information, very little opportunity to ask questions, equipment malfunction, and multiple interruptions. Facilitators identified included pertinent content being given, the ability to take notes, face to face interaction with outgoing nurse, and

what is defined as quality in a handoff depends on the purpose of the handoff (Hilary & Hicks, 2011).

The completeness of information and description needed includes essential information such as care plan, allergies, and nutritional facts. The standardization of information to be included in a handoff is frequently an issue, and research has shown that handoff protocols vary considerably. Outcome measures for patient handoff typically include satisfaction with the handoff and should also assess the safety-relevant consequences on subsequent patient care (e.g. delay in the plan of care or diagnosis). According to Runy (2008), some of the factors in an adequate handoff include the following items:

- Relevant diagnosis
- Background medical data
- Administrative data (insurance information)
- Significant risks (fall risk, refeeding risk)
- Critical values
- Uncertainties (i.e., dismissal date, pending labs)
- General care plan
- Relevant medications
- Patient/family awareness (of the care plan, dismissal plans)
- Next steps (things to watch for such as surgery, biopsy)
- Time critical actions (key meds to be given, STAT orders)
- Safety concerns (orientation, refeeding syndrome) (p. 42)

When it comes to an effective handoff, other factors must come into play as well, such as

a quiet non-distracting environment (Runy, 2008).

Based on growing empirical evidence that patient handoffs in all health-care settings vary in content and process, many recommend reducing variability through standardization (McFetridge, Gillespie, Goode, & Melby, 2007). Foster and Manser (2012) identified 18 articles reporting 37 statistical associations between a handoff characteristic and outcome. The use of a standardized handoff sheet was found in 7 out of 12 studies that reported significant improvements after introduction of the sheet. The one unifying factor in all the studies was the standardization of the handoff tool as a positive outcome of the handoff activity.

Two approaches were found in the literature regarding handoff communication: the checklist approach used in very specific clinical settings and a situation, background, assessment, and recommendations (SBAR) format (Foster & Manser, 2012). The checklist approach is a list containing specific items that need to be completed or handed over during shift handoff. The SBAR method addresses specific topics that need to be covered during handoffs. This communication method may advise the oncoming team, and provide accurate information regarding the reason for hospitalization then treatments are given and plan of care is communicated (Manser, Foster, Gisin, Jaekel, & Ummenhofer, 2010).

In the nutrition support practice at the Midwest hospital, the SBAR format is currently used, as it is a more comprehensive approach to handoff information and seems to be more appropriate in practice. With handoffs, in the NSCS practice there is a large amount of data and information very specific to each patient. This handoff is not done at the bedside as only one nurse is on duty each day. So it is helpful to have a context of the

patient in order to interpret the nutritional data. For example, it is helpful to know that a patient only has 88 cm of small bowel left, and that is why the patient is on central parenteral nutrition (CPN). In the next section, computerized handoff methods will be discussed as an improvement to patient care.

Computerized Handoff

Handoffs for hospitalized patients have become more frequent with the increased use of cross-coverage and mandatory decreased in house hours for residents and nurses. The challenges and dangers associated with patient handoff have received extensive attention from the Joint Commission (Arora, Johnson, Lovinger, Humphrey,& Meltzer, 2005). According to Horwitz, Moin, Krumbholz, Wang, and Bradley (2008), some of the complications associated with poor handoffs include increased hospital complications, delay in diagnostic tests, uncertainty about patients' care plans, and preventable adverse events. The Joint Commission (2009) recommended a standardized approach to patient handoff as part of its National Patient Safety Goals. Most commercial electronic health records lack sufficient tools to support computerized patient handoff activities.

At a large Midwest hospital, the application called FEED is utilized as a separate electronic system that allows relevant patient data to be compiled. This application has prevented fragmentation of information and provides a collaborative approach for patient handoff that allows the user to communicate with other clinicians and is a prime medium for the implementation of a computerized patient handoff template. Wilson et al. (2005) found that the compilation and integration of patient information from various sources have been estimated to consume up to one third of a physician's time and are no longer

feasible at a large medical center. FEED significantly decreases this effort by integrating computerized data from hospital admissions, laboratory, microbiology, parenteral nutrition, and pharmacy databases into one place. This system is unique in that it compiles data used in specific patient care situations automatically, such as nutrition.

According to Pope, Rodzin, and Spross (2008), methods have been suggested to improve handoff communication in hospitals, including the use of communication frameworks, such as SBAR. One practical method of standardizing of the handoff process is the creation and exchange of a handoff document or "sign out note" (Horowitz, Moin, Krumholz, Wang, & Bradley, 2008 p. 1755). These notes typically include demographic data (e.g.. a patient's name, age, location, code status, and next of kin), a brief clinical history of the patient, and a list of current medications, recent diagnostic test results, and important "to-do" items for the current and next care provider. An example of a Nutrition Support Handoff Template can be seen in Appendix A.

Improving the handoff process is important across the continuum of healthcare professionals as work hour limits are put upon residents. Van Eaton, Horvath, Lober, Rossini, and Pellegrini (2005) looked at the effect of a computerized rounding and sign-out system on handoffs between medical residents. Restrictions on the number of hours residents are allowed to work have increased the number of handoffs between residents and thus increased concerns about communication breakdowns. In Van Eaton et al.'s. study, 14 inpatient resident teams were divided with half performing a traditional hand off and the other half using the newly implemented electronic system. At a specified point in the study, the two groups were switched with the control group using the electronic tool and the intervention group going back to the traditional methods. The

outcomes measured were continuity of care, which looked at the number of patients being missed during rounds, self-reports by the residents about the continuity of care, and workflow efficiency. The study period was 103 days. Over all, the researchers found a statistically significant reduction in the number of patients missed on rounds. In the resident's assessment of the intervention, it was noted that there was an overall feeling that the electronic system helped improve sign-out quality and continuity of care. There was also a statistically significant reduction in the time spent during rounds by about 1.5 minutes per patient and also a decrease in time spent hand copying patient data during pre-round times. This study was designed as a randomized control trial, which increases the strength of the findings. A limitation identified was that the electronic system was already in use at the institution. This meant that the residents in the control group had to switch back to their traditional methods of sign-out and that also some of the residents had secretly maintained their lists in the electronic system. The results of this study are unique to residents and results between nursing handoff may differ. Any such electronic tool would also need to be studied in relationship to nursing handoffs.

Intentionality in Patient Safety

Handoff of care is one of the most perilous procedures in the hospital, and with work hour restrictions of nurses and a resident, mastering the handoff task is at the forefront of safety concerns. The National Patient Safety Agency (2011) recognized the importance of minimizing the risks involved in transferring clinical responsibility. Building a safer environment for patients introduces the work of the National Patient Safety Agency in proactively raising awareness of patient safety issues. Good quality handoff is essential to protect patients' safety. Failure in this process, or poor quality

handoff, is a significant risk to patients (National Patient Safety Agency, 2011).

The fundamental aim of any handoff according to Foster and Manser (2011), is to achieve the efficient transfer of high-quality clinical information at times of transition of responsibility for patients. Shift work relies on effective information transfer to protect patient safety. Continuity of information underpins all aspects of seamless continuity of care. Discontinuity of information endangers the continuity of care and patient safety (p.181).

According to the British Medical Association (2005), traditional on-call work patterns with personal continuity, in which the patient sees the same doctor or nurse day after day, have masked the lack of structure and systems to support information transfer. However, the concept of personal continuity is outdated in the modern model of shift work where multiple health professionals and teams will contribute to a single patient's care.

With the ever-increasing changes in healthcare and the need for continuity of care with patients, nurses need to consider the practice of intentionality (Watson, 2002) while caring for those in their charge. With several caregivers caring for the same patient from day to day, to be intentional or purposeful toward the care of that patient with action, expectation, and volition becomes that much more important to provide adequate continuity of care. Nursing with intentionality in mind can no longer focus on a ranking order of medical procedures or bureaucratic tasks; rather nurses need to use the concepts of intentionality, caring consciousness, energy, spirit, and transpersonal relationships in their practice (Watson, 2002). A focus on such a holistic view invites a new dimension to patient care with the whole person considered. This will help to bridge the gaps of

discontinuity in care on a daily basis and seek to promote a caring relationship that will ultimately build trust and a deeper understanding of how to meet the patient's needs. With the focus on resident and nurse work limits, it is essential that a patient's continuity of care is not compromised. It is also essential that a patient experience intentional consistency and accuracy of knowledge and information from all multidisciplinary team members. The team, rather than an individual should be seen as the care provider. Achieving system continuity requires mechanisms to support the transfer of high-quality clinical information across shift changes. Good handoff techniques protect the safety of the patient and ensure the prevention of mistakes. They increase patient satisfaction because when one caregiver finishes a shift another may continue with the care that may improve patients' perception of professionalism (National Patient Safety Agency, 2011).

Currently, there are no evidence based practice (EBP) guidelines related to nursing handoffs. Arora et al. (2009) recommended that time should be dedicated to a verbal exchange of information. A template or technology solution should be used to access and record information. New users should be trained on hand off expectations, and tracking should be done to assure that the correct professional is caring for a patient after service change. Recommendations for the verbal exchange included that the process should be interactive. Giving patients priority during the exchange and insight on what to anticipate of next steps is vital (Arora et al., 2009). The content of the handoff should include discussion of all patients being handed off. It should be kept in a centralized location, be up to date, have anticipated events clearly labeled, and highlight action items for the incoming hospitalist (Arora et al., 2009). This handoff is very general with no real specifics on how to best conduct the hand off or even what format to use, perhaps

because of the lack of any reliable empirical evidence regarding the best practices regarding handoffs. Again the guideline was specifically designed for hospital physicians and not nurses, so generalizing about nursing handoffs is difficult.

NSPs working in the clinical setting are specialists in providing and managing enteral and parenteral nutrition. It is essential that nutritional information is accurately relayed each day so that the optimum nutrition is achieved, and patients receive the nutrients necessary to heal. The Joint Commission (2011) implemented the National Patient Safety Goals focusing on improved communication effectiveness among caregivers because ineffective communication was cited as the most frequent cause of sentinel events. Effective communication and handoff responsibilities are a fundamental component of nursing practice and clinical nursing education. Based on the growing empirical evidence that patient handoffs in all health-care settings are highly variable in content and process, standardization is recommended. Standardization will reduce handoff variability and inconsistency. Using computerized templates to standardize handoffs provides not only convenience for nurses but also safety for patients.

Continuity of information underscores all parts of seamless continuity of care, and with the ever-increasing changes in healthcare, such as limited shift hours, and the need for continuity of care with patients, nurses need to consider the practice of intentionality while caring for those in their charge. Chapter Three will discuss the need that a nutrition support practice at a large Midwest hospital discovered for a computerized system of handoff.

Chapter Three: Development of Innovative Practice Model

A computerized handoff at the large Midwest hospital would ensure a standardized process, improve communication, and enhance the safety of patients from shift to shift. At the Midwest hospital, there is a campaign to "work differently" not "harder" and to make handoffs clear and concise. The nutrition support nursing practice has found the current practice to be a challenge to adequately handoff and communicate a patient's plan of care without duplicating documentation. As a new member of the nutrition support team, I am very dependent on handoff notes from the nurse on the previous shift. It is evident that a simplified but effective handoff is needed. Moreover, it is essential to involve nutrition support staff in the development of the computerized template for handoffs. If they are active participants in the change process, the staff are more likely to buy into the change of handoff practice. This project is focused on incorporating different elements that use a strategic approach to implementing a computerized handoff template in a nutrition support nursing practice at a large Midwest hospital practice. The development of the computerized template, the nursing theoretical framework of caring intentionality, and the conceptual metaphor guided by Watson's (2008) Caring Theory are the focus of this chapter.

Development of a Computerized Template Process

The process of creating the nutrition support handoff computerized template project was first to identify an effective way to introduce the idea to stakeholders, namely other nutrition support nurses (NSN). Watson's (2008) transpersonal caring philosophy of woven into this project makes essential all nurses have input, so they feel free to participate, learn, and eventually act as change agents. This project began in April 2015

when the idea was introduced at an administrative meeting with all three nutrition support nurses and their administrator. One of the goals of this meeting was to focus on nutrition support practices that could be enhanced to improve patient safety and the experience of patients receiving care from the nutrition support service. One portion of this meeting was focused on the discussion of practices that lead to improved patient outcomes. A concern expressed was the increasing need for documentation and how the current practice takes a nurse away from patient care. In addition, how the same handoff information was being documented in several different places was also discussed. Currently there is documentation within the EMR in the form of the nutritional record communicator (NRC). Likewise, a note is written as a permanent piece of the record, and also a note is kept in a binder for nutrition nurses to handoff to the next nurse. Along with a patient's chart and the notebook, the FEED was the fourth place to document nutritional data. The FEED application pulls all the nutritional data from the electronic chart and also serves as a communicator for the pharmacists to detail parenteral nutrition formulas to the nursing unit pharmacist who will write the orders. All of these pieces of documentation have merit and serve a purpose in communicating vital nutritional information. However, the daily duplication of documentation becomes weary and takes away from patient care.

To cut down on the duplicate documentation, an exploration of the literature was undertaken. I explored the literature and numerous research studies discussed the development of a computerized handoff template. This research concluded that, "The method demonstrating the greatest amount of information retention involved the use of a preprinted form containing essential clinical data," (Goldsmith et al., 2010, p. 256). After

discussion with the NSNs, a template (see Appendix B) was created. The template could be added to the FEED application in the patient note section used to communicate the plan of care to the pharmacist for CPN formulas. For consistency, the NSNs who would communicate the nutritional plan of care for the patient using the created template could use this patient note section as well. This note could be read by anyone who has access to the FEED application.

The template or reporting tool (see Appendix B) for the implementation process addresses the key areas of nutritional and medical history that needs to be included in the handoff each day. The SBAR format is easy to use. The situation section (S) will describe a patient's name, age, reason for hospitalization, and also the reason for the nutrition support consult. The background section (B) will describe a patient's history relevant to nutrition only, such as, history of Crohn's disease, Type 2 Diabetic and length of time on parenteral nutrition. The assessment section (A) will contain current nutritional assessment information, such as current and usual weight, amount of weight loss within the past 3 to 6 months, current diet, body mass index (BMI), Harris Benedict (HB) or amount of calories needed per day, and vitamins that may need to be evaluated. It also contains out of range electrolytes to watch and medications, such as Reglan, which affects gastric motility. The final section of the recommendations (R) contains information to follow up on the next day, such as pending laboratory results and vitamin values or parenteral changes that may need to be made the next day.

The SBAR content will help ensure that the transition of care includes the most important aspects of patient care. A nurse will only discuss the abnormal assessment findings found in the template so that the report is focused and passes on information that

helps prioritize a patient's care and individual needs. Appendix A reflects the content specific to this NSCS and what nutrition nurses feel is important to address with each handoff. Using this format keeps the framework and methodology of the reporting tool content transferrable to any department. Moreover, it also allows each nursing area to decide what specific content is most important to share with that body system based on the type of care provided by the nursing unit provides.

The end goal of the implementation process is to transition staff from the current reporting method to the tool that will be available in the FEED application system in the patient note section (see Appendix C). A 1-month trial period using the template began on April 27, 2015. Appendix B is an example of the FEED sheet and a sample of the handoff template. The new FEED handoff template will be a daily record of the nutritional plan of care. The template can be printed or used directly from the computer during morning rounds seeing patient. The process is methodical, structured, and allows nurses to spend more time intentionally building a transpersonal caring relationship with a patient rather than worrying about what are the nutritional plan of care priorities are for that day. Also, nurses will find a computerized template used in the patient note section of the FEED sheet alleviates the lack of continuity of care while giving direction for the next day's nutritional care. The idea of a computerized template is not new but, it will allow the NSN to intentionally focus on a patient while gathering the most up to date information without spending excessive time in chart review.

Integration of Nursing Theoretical Framework

Watson's (2008) Caring Theory has been extremely influential in the developing this project. The language used to describe Watson's (2008) intentionality and the goals

behind implementing this project share a similar theme. When one declares intentionality toward an action, whatever resistance exists tends to dissipate or mobilize. This allows for intention to flourish. In applying this concept to the computerized handoff template, instead of complaining about how many places each day there are to document, I mobilized my discontent into action. This led to discussion with other nutrition nurses on the subject and what could be done to alleviate so much duplication in patient documentation. Co-workers sharing this concern at one of the meetings with our administrator led to looking at the research about how other institutions were documenting and how we could determine a process that would better meet the patients' needs as well as be more efficient for the nutrition nurses. Theoretically, one of the main ideas behind the implementation is caring intentionality. Nurses can see patients, have a conversation with a patient, perform nurse-to-nurse handoff, cover all the required components of the reporting tool, without exhibiting any caring intention throughout the process. Intentionality is the key to using the template. Completing nursing computerized handoff without intentionality will look much different than if staff approaches a patient with a caring demeanor. Watson (2008) described beneficial relationships as those that encompass nurses' intention and commitment to caring for a patient in a way that shows they are engaged and dedicated to health and healing. This commitment is seen in being authentically present and engaging with a patient in a way that shows the nurse is actively listening and interested in what a patient has to say.

Using a computerized handoff template will promote more time with a patient. Spending more time with patients and understanding their situation is what nurses seek in patient care. Fewer places to document will take less time and will provide more time

assessing a patient's needs and prevent a nurse from becoming distracted by looking up information in a binder when time is limited to begin with and could be spent with a patient. Printing off the FEED sheet in the morning with the nurse-to-nurse handoff from the previous day will allow me to get out and see my patients quicker than with the current form of documenting.

Caring intentionality may come more naturally to some nurses than others, but it is equally as important to be invested in this theory as it is to be committed to the nurse handoff process. Protecting the caring aspects of the nursing profession takes effort and intentional practice; without this, the nursing role becomes task-oriented and distant from its original roots. Watson's (2008) Caring Theory is an opportunity for nurses to exercise compassion. A nurse hopes to ease patient and family suffering while treating a patient as a person rather than a diagnosis. Computerized handoff is a chance for communication to lead staff in a direction that demonstrates value in patients' belief systems and plan of care goals.

With the current system of patient communication documentation, a patient's plan of care, may be hard to read when manually written. Also, when communicating patient information, shortcuts sometimes are taken in writing that lead to cryptic notes and time spent trying to decipher the meaning. The computerized handoff template will allow for clear documentation of the plan of care. Whether the plan of care is written manually or computerized may not change how staff demonstrates understanding of a patient's belief system. A computerized template, however, will give nurses more time to get to know a patient personally because less time is spent in documenting. It also may aid in nurses understanding a patient's belief system if a piece of patient information handed off from

one nurse to another is something new to the oncoming nurse who would not have thought to ask about the patient's belief system.

With accurate handoff, the nursing staff can lead the discussion with the patient by initiating a conversation around the two areas of the reporting tool that address patients' preferences and their nutritional goals of care. This conversation is an opportunity for patients to share aspects of their belief system and how they would like to integrate them into their plan of care. The point of handoff can also be an opportunity to educate other nurses on Watson's (2008) theory and ideas of intentionality in nursing practice. To focus on a patient's dignity and humanity awakens the intentionality for the nurse caring for that patient. To practice nursing with Watson's caring intentionality at the heart of the day makes the crucial tasks in the care of a patient, such as ordering nutritional supplements, more meaningful and less duty oriented. While not minimizing the significance of skill sets and a strong knowledge base, practicing intentionality intertwines connectedness and the plan of care with a patient leading to a strong patient-centered, quality driven plan. Teaching other nurses about incorporating Watson's caring intentionality will be a natural element of seeking "buy-in" from nursing staff. Connecting with and embracing the spirit and soul of patients through the processes of caring and healing will allow the implementation of the computerized template to be successful.

Intentionality is applicable to identifying a patient's goal for the day. When one nurse finds out what is important to a patient, it is important to make this known during the handoff to another nurse. It lets patients know that nurses take their goals of care seriously. For example, when a patient likes a nutritional supplement, it is important to

share this with other nurses to help increase protein calories and vitamins for the patient needing these nutrients for healing. Nurses show that they care by setting aside time to intentionally address a patient's goals and integrate those into the nutritional daily plan of care. Everyday, the nutritional handoff will discuss whether the goal was met or needs to be addressed. Having an awareness of a patient's preferences and goals helps promote holistic care and is one way Watson (2008) believes nursing can integrate caring into nurses' daily practice. This holistic approach includes identifying all the preferences patients may have for their nutritional goal of care. It is important to care for the whole patient.

Watson's (2008) transpersonal caring relationship is essential to integrate into the computerized handoff implementation. Watson's concept of transpersonal caring serves as a guide to honoring a patient's plan of care, beliefs and wishes. It also reflects respecting other nurses in assuring that all the information needed for that day is recorded to provide continuity of care for the patient. Nurses need to be deliberate in the care they provide and continue to focus their efforts on how to meet best a patient's holistic needs while balancing nutrition and medical interventions (Watson, 2008). The nurse-patient relationship is a cohesive bond likely to succeed when both parties are aware of what has the greatest impact on meeting the needs of the patients' individualized nutritional goals. With an accurate nutrition support handoff, a nurse and patient can determine how to make their relationship one that supports healing and attempts to achieve their individualized goals. Nurses can do this with the handoff report when visiting with nutrition support patients asking how they are tolerating nutritional supplements or their daily meals, lends individual attention. A nurse repeating what a patient says helps build

the bond between nurse and patient. The nurse offering ideas on how to meet a patient's requests shows that the nurse is in tune with the patient. Both verbal and non-verbal communicates a commitment to meeting patient's needs.

The pre-implementation phase of this project involved having a dialogue with other nutrition support nurses on communication techniques. It also called for awareness of self-communication preferences and investigating what each nutrition nurse deemed vital to communicate in the handoff report to best meet a patient's needs. Nutrition support handoff is somewhat methodical and mechanical. However, the manner in which a handoff occurs is what demonstrates nurses' commitment to making this a meaningful experience both nurses and patients. The nutrition support nurse handoff is an opportunity for nurses to connect with a patient and should happen early in the process. The connection shows nurses are present in the moment and are committed to helping patients achieve their optimal nutritional and general health.

The relationship between patient and nurse must be built on caring and trust in order to move forward in applying medical and nutritional interventions. A nurse's application of Watson's (2008) concepts of transpersonal caring and intentionality are beneficial for a patient's plan of care. These two concepts demonstrate nurses' expression of care, love, and a full commitment to meet the patient's needs.

Conceptual Metaphor

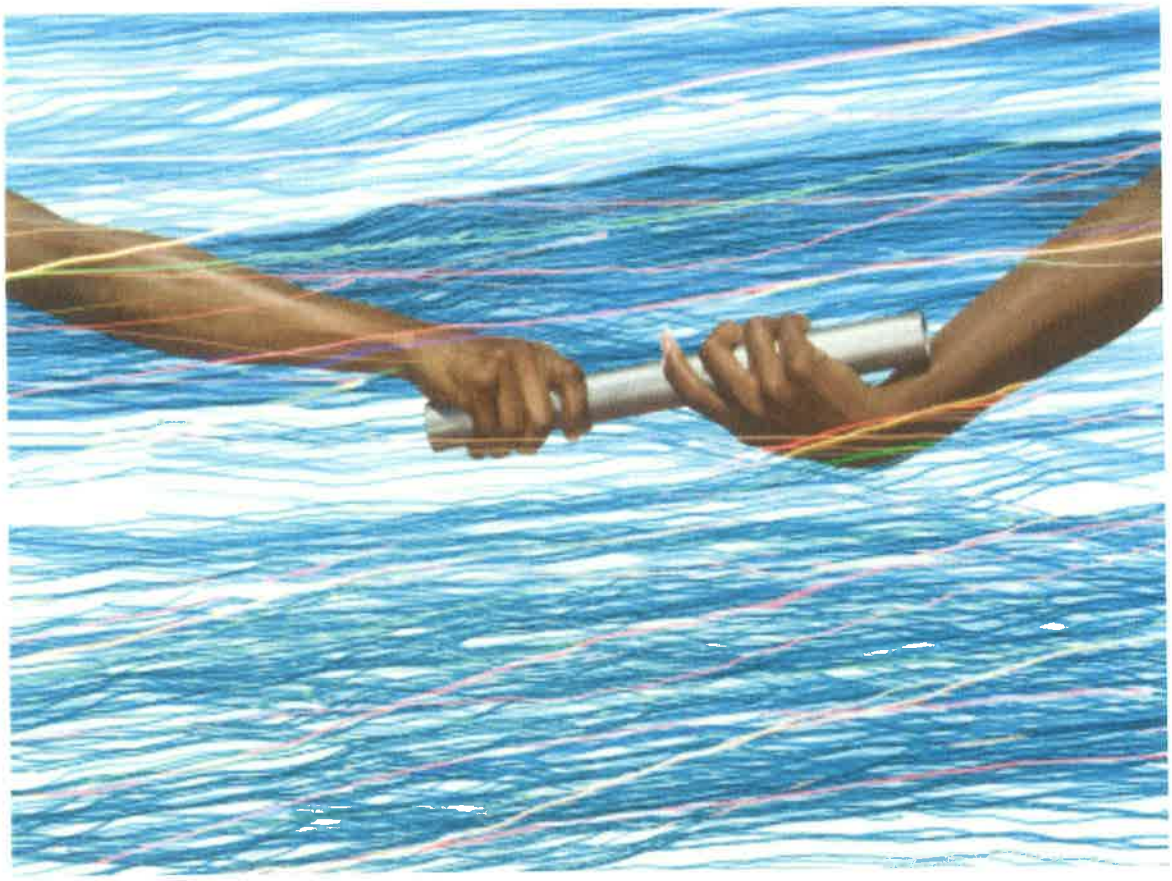
The conceptual metaphor embeds Watson's (2008) concepts of caring intentionality and transpersonal caring relationships in the nursing care provided with the computerized handoff template. The Runner With Baton Handoff metaphor (see Figure 1) depicts an image of two runners who must work together to win the race. In the nutrition support

nursing practice, nurses are not running a sprint but are running a relay race. The nutrition support practice is an ongoing day-to-day practice where nurses pick up and pass off information in an ongoing process. Each of the nurses in the nutrition support team can only take the race so far every day. Others must pick up the baton when their piece of the race is done.

In the Runner with Baton Handoff metaphor, one runner must reach back seeking the hand of the runner following. When I am thinking of patient care and what information needs to be communicated to the next caregiver, it is helpful to keep this analogy in mind. How can I communicate important information with my colleague in mind? How can I aid in my co-worker's success in the race to not drop the baton? Once the runner drops the baton, the whole team is disqualified, and no points are awarded. To successfully carry out a patient's plan of care the team approach must be the model. With hospital work restrictions or part-time workers, the dependency on other team members becomes even more crucial.

Not only does a runner have to reach back to pass the baton, but also the next runner must reach forward. There is a short period when one runner comes alongside another runner to hand off the baton. This style of race is similar to the computerized handoff template itself. A period of overlap can promote learning and lead to a smoother transition. When both nurses have their hands on the handoff (as the two runners have their hands on the baton for passing it) successful communication must be clear and concise on what the nutrition plan of care is and what needs to be followed up on with the next runner. There should be a good objective and a clear finish line. There should also

Figure 1. The Runner With Baton Handoff Metaphor



be a two-way discussion (two hands holding the baton) about what needs to be done and a firm tug when the runner says, "I've got it." This transition makes each day flow smoothly, and no important goals are dropped or forgotten. It also allows for each nurse to aid in the success of others and support each other with Watson's (2008) transpersonal caring concept. In the relay, the handoff is not lengthy, but is crucial and similar to nurse handoffs. The transition but must be concise and attainable. Speed, coordination, and working as a team determine the outcome of the race the race. Knowing how to pass the baton (i.e. patient information) effectively is fundamental to achieving victory.

Another analogy to the Runner with Baton Handoff is the peer-to-peer sharing that must be present for a successful race to be won. The computerized template provides

opportunities for teaching and learning during the handoff. Passing the baton requires a two-part cooperation: a willingness to give and a willingness to receive. Each runner plays both roles at various times. Passing the baton calls for colleagues to work consciously and learn from each other. This metaphor of a Runner with Baton has some assumptions. One is that everyone has a personal view of how to organize his or her workload or how to run the race. Peterson, Orav, Teich, Oneil, and Brennen (1998) suggested that patient safety improves when structures are put in place that supports handoffs either in written form or electronically. Nurses each have individual perceptions of what constitutes the best strategy for organizing patient care data. Those who have studied the process of handoffs offer patient handoff interventions and have concluded what works best for handoff measures, but the individuals will only see them as useful if they perceive them as important.

Another assumption is that everyone has a choice of whether to use the computer or to manually write down patient data because it takes everyone to run the race and cross the finish line. Some nurses prefer manual documentation over computerization. Research studies, however, has reported on inaccurate and lengthy handoffs (Sextan et al., 2004). The computerized handoff template will strive to be as user-friendly as possible and seek to alleviate these aforementioned assumptions. Implementation of the Nutrition Support Nursing Handoff computerized template has been planned with the goal in mind to decrease duplication of documentation while allowing more time for patients. The template will be trialed for one month followed by an evaluation and feedback. It is my hope that the handoff from nurse to nurse can be done with the use of the computerized template. A Runner With Baton metaphor represents the importance of

working together as a nutrition support team.

A computerized handoff -template was developed to ensure a standardized process, improve communication, and to eliminate duplication of documentation from shift to shift among nutrition support nurses. Incorporating Watson's (2008) Caring Theory concept of intentionality was a key component to the success of implementing the template. A conceptual metaphor of a relay runner with baton provides a visual for the goals of a computerized handoff template that integrates caring intentionality and relationships in the computerized handoff template provides a visual for the goals of the handoff template. The use of a standardized reporting tool in the computerized handoff template for nutrition support nurses will be evaluated through colleagues' feedback and a confidential interview with a nursing administrator after a 1-month pilot study. Some assumptions include that the ease of using the handoff will increase its success, it will decrease duplication of documentation, and it will provide more time with the patient. Chapter Four will discuss, evaluate, and provide personal reflection about the process of developing and integrating the computerized template into the nutrition support practice.

Chapter 4: Evaluation

Measuring the success of the computerized template implementation is essential. Three measures will be evaluated: stakeholders' input, ease of use of the template, and a confidential post-implementation interview from each RN using the template. This chapter will discuss the evaluation measures feedback of the success and shortcomings of the template.

The most useful measure of the success of the computerized template is the feedback from those who are using the template. In a large Midwest practice the nutrition support nurses implemented the handoff template in their practice for 1 month. The pilot began in April 2015 and continued until the end of May 2015. During this time frame, the computerized handoff template took the place of writing down patient data in a notebook. The success or failure of the template lies in the fate of those using it. One nutrition nurse felt that it was a large step forward in practice regarding documentation and communication. Nutrition support nurses realized that they had been continuing traditions from years past of keeping a record of patient data while at the same time adding layers of new places to document. Over time, these added areas of documentation unknowingly added strain to the workload. With the new focus on working differently and more efficiently, a computerized template can help.

The implementation of the new template is not without its shortcomings. One weekend the FEED list (see Appendix C) could not be loaded onto the computer. Without a backup plan, it was difficult for the NSCS to carry out duties. Keeping a copy of the FEED list from the day before was a solution in this situation until the computer was working properly again. Another problem was keeping track of all patient data that

populated the FEED sheet and it was difficult to find specific data needed such as fluid input and output.

Another measure of success of the computerized template implementation was to evaluate the ease of use. Prior to the FEED computerized template, patient data was recorded in a large notebook with a colored tab dividing each patient and the patient's recorded information. To look up information about a patient, the nutrition support nurse would have to find a flat surface to review the information needed. All stakeholders noted the ease of using the template and saw it as an asset to the practice. To be able to type the patient data into the computer and be able to print off the sheet was seen as a positive step forward. The FEED sheet could act as a script with all the information at hand without having to look through a large notebook seeking the information for each patient. Wilson et al. (2005) created the FEED system, to maximize patient safety, standardize nutrition care and increase the efficiency of patient rounds involving the NSCS. The ease of use has added to the efficiency of the patient documentation significantly.

Receiving feedback from the confidential interview was also a very important evaluation tool. The interview gave stakeholders an ability to express their personal feelings toward the success of the implementation process. A nurse administrator who had a stake in wanting all parties involved to have a voice in the template they will be using conducted this interview. Feedback overall was positive although the shortcomings previously discussed came surfaced as reasons not to use the template. However, using the computerized template helped a nurse visit with patients more quickly. The manual recording took longer to record data. The FEED computerized template decreased places

to chart patient data and plan of care from three areas to only two areas. The first place for recording patient data is found in the emergency medical record (EMR) and the other on the FEED sheet. Another confidential comment from one stakeholder expressed looking forward to not having to carry around a notebook and a computer on patient rounds as this can be clumsy and hard on the wrists. Realizing that there will be flaws in any recording process, the use of the computer over manual reporting was seen as a unanimous improvement of efficiency and ease of documenting for future practice. However, there were some drawbacks to the computerized template over the manual recording process. With the FEED system, a dependence on the computer is key, and if the system is not working properly, it can be a major disruption to patient data retrieval. Also, comments in the confidential interview noted how difficult it is when too much patient data overpopulates the FEED sheet. When there is too much information on the sheet, it is hard to visualize pieces of informational data when needed, although this was seen as a minor irritation. Another downfall one colleague stated was that when recording numeric values, it is hard to record these in the computer.

Input for improvement was sought at the confidential interview, and along with stakeholder feedback, was valuable for improvement of the template. One colleague felt that a template that could be populated into the patient note on FEED would be useful and could help standardize information as opposed to a free hand SBAR template (see Appendix A). Another valuable comment was the concern that patient notes on FEED about long-term patients may overwhelm the system. In addition, the user might have to print off too many patient data sheets at a time due to the lengthy hospital stay.

Using these three evaluation methods has provided a nonbiased perspective of

stakeholders' perception of the nutrition nurse computerized template process and its impact on the NSCS practice. A successful implementation has included input from valuable stakeholders. The eases of use of the template for the user as well as positive and constructive feedback from the confidential interview of those involved in the use of the template.

Reflections

Introducing a new practice often presents learning opportunities for improving the practice or evaluating the way new practice was implemented. Depending on the level of impact, any change can create culture shifts and cause tension in the implementation process. The introduction of a new practice in healthcare requires supportive literature, evidence-based practice, and a willingness to try something new. As change happens, issues may appear that need attention and resolution, which comes with any intent to make a practice better.

Discussing the pilot study with colleagues has been interesting. Some have hesitated trying a new format of documentation. Some colleagues have shown some interest in changing over to a solely computerized format of handoff documentation. However, there is some hesitation in letting go of the binder that has been in used for so long in patient documentation, partly because some don't feel typing on the computer is necessarily more efficient. Patient intakes and outputs are difficult to record on the computer. Overall, colleagues have been very supportive in this project but whether the computerized handoff template continues remains to be seen. The whole process of implementing the pilot study was very rewarding and fun. It was an honor to work with my colleagues on this project and earn their buy in if only for the pilot study. I am not

surprised with my colleagues comments as they are very open minded and willing to try new approaches if it provides greater care to patients.

The purpose of implementing the nutrition support nursing computerized handoff was to focus on patient satisfaction, improved continuity of care for patients, and on patient safety by developing a standardized reporting tool to guide NSCS nurse handoff. Although this project's content and implementation plan are congruent with other organizations' approaches to handoff practice, there is still a possibility that implementing this practice could have been done differently. In reviewing the literature, the practice of nursing handoff reinforced that utilizing computerized templates was necessary as manual recording is becoming a less efficient method of keeping records of patient data (Manser et al., 2010).

Guiding Nutrition Support Handoff through Watson's Caring Theory

Learning from these experiences of implementation leads to reflecting on the impact of integrating nursing theory into practice, such as with the nutrition nurse handoff process. Healthcare organizations must evaluate what they are doing to help nursing staff work efficiently while caring for patients needs. Looking at current trends in work utilization and how nurses meet patients needs may help nurses in becoming more intentional in their work. Watson's (2008) focus on intentionality in caring teaches nurses that when they truly see the importance in their work, they build a sense of sacred space and reverence around it. I certainly feel this regarding this project. If not put in a context of theory such as Watson's (2008), the NSCS computerized handoff could be perceived as very task oriented and mechanical. It would be without a soul or any deeper meaning other than efficiency. To be intentional in this implementation process helped

keep the focus on the patient- nurse relationship as well as nurse-colleague relationship. Nurses realize that they are dealing with the spirit or life force of others when their paths join patients. Keeping Watson's view of intentionality in mind helps nurses see patients as more than just a job or a task for the next shift. In developing a computerized template, Watson's view of intentionality has reminded me to see my patients as humans with value, not just to become more efficient in my work.

This project has been influential in teaching me how to work with others in changing nursing practice for the better. To be a change agent, one must have thick skin when presenting issues and suggesting changes I have also learned how I present an issue is as an important as the issue. Coming into the nutrition support practice 5 years ago, I was the newest member of the team and my colleagues who have been practicing in the NSCS role for over 12 years have shaped the practice policies and models. I knew that I needed to help them understand that I was not coming to change the practice for my sake but to point out best practice from the literature. Watson's (2008) intentionality has been the impetus for this project and has helped me focus on my colleagues as experts in the nutrition field and seek their input for this project. To bring a new practice idea and allow freedom to implement it shows their trust in me. It has helped to draw from their expertise and understand from other's perspectives if they agree with the assumptions made in this project and if not why not. A valuable insight from the literature is how important it is to make the nutrition support handoff computerized template sustainable.

Lessons Learned

New insights I have gained from this experience are how powerful theory can be in helping a team connect with why a change in practice is necessary. Finding evidence-

based literature support is not a difficult task but getting others to use their hearts and minds to connect with change can be very challenging. Watson's (2008) caring concepts have a powerful connection with the nursing profession and are inherent in the implementation of the nutrition support handoff computerized template. I have learned that approaching other team members in a way that helps them reflect personally is sometimes more effective than pointing out how their efforts have made a positive statistical shift. The beauty of the process is that nurses all respond differently to change and finding a way to make a change happen typically requires multiple avenues.

My vision of this project has transformed over its full development. Original thoughts and plans have transpired into actions and have evolved in a way that best meets the needs of the other nutrition support nurses. Any new project starts with good intentions, plans and inspiring strategies but the final product often presents more than what was planned. In starting this project, my original plans only touched the surface of what the end product became. I learned from a literature review more about what I wanted to accomplish and understood successes and failures I could anticipate. I grew as a leader and have further developed the skills necessary to being a successful change agent. The project became so much more than I thought it would become and is rich in content and perspective, although simple. It helped me gain credibility with my colleagues. I understand that although my vision and reality are congruent, to carry out this project taught me how important having others buyin is. The ability to bring others on board with my vision of using the computerized template has taken patience and perseverance. The literature review presented the research, so the project was not my personal perspective but rather what has been proven to work in other practice settings.

Chapter Five will discuss the future implications of this project and its impact on the nursing profession. Consideration will be given to how this project could be expanded as well as what research would be helpful in measuring the impact of nutrition support computerized template on patient safety. The chapter will also address the role and influence of transformational leadership and the project's connection to decreasing health inequities in the patient population.

Chapter Five: Conclusions

The implementation of this project has been carried out over the past month. It has been exciting to see the success of the project to date. I am eager to see if the project will continue after the month-long trial period. During the pre-implementation stage, my colleagues recognized the need for a new system of recording patient data. They were encouraging to go forward with this project and were interested in the concepts of Watson's (2008) Caring Theory. I have appreciated the input from my colleagues during the literature review, implementation process, and evaluation period. I am already anticipating changes to improve the process. The full implementation of computerized handoff template for nutrition nurses has already resulted in increased satisfaction for those using it, better handoff technique and an increased dialogue among my colleagues involved in using the template.

Implications for Future Research

This project could be further extended to evaluate statistical data related to nutrition support handoff and patient safety as research reports that most sentinel events occur due to a breakdown in communication (Laws & Amato, 2010). It would be interesting to capture the occurrence of when potentially harmful events have occurred. Being able to attribute NSCS computerized handoff with the prevention of an unexpected event could provide statistical evidence that this implementation was effective in preventing errors or sentinel events. In my current practice, the nutrition support nurses are encouraged to document unexpected events as well as near misses to help capture potential failures in the system or practice that did not affect the patient.

The literature review provided minimal information on the best computerized

template. There was also very little literature on nutrition support handoff specifically. The lack of literature specific to nutrition support nursing is not surprising because this is a very small subset of nursing practice. Research indicated that many organizations have very specialized methods of handoff that meet the needs of that organization. The literature was also lacking in what content was specifically used in the handoff instead focusing on the use of the computer in the handoff process. Much of the nursing research was directed to bedside handoff and not to computerized handoff such as is used in the NSCS nurses' practice. Future research in what specific content or structure for NSCS computerized handoff is best for ensuring patient safety and experience would potentially be helpful. However, part of the intent of this implementation was to standardize the process through a computerized template tool. The use of the template has already improved efficiency and handoff standardization, as there will be less variability in the reporting process by colleagues.

Implications for Advanced Nursing Practice

The implications for advanced nursing practice are seen in how care is prioritized via the handoff template. The nursing profession has seen multitudes of changes throughout the years, which are often supported by evidence-based practice and reported patient and colleague experiences. These factors act as guidelines to help improve nursing practice and promote health, healing, and safety in health care. The implementation of the NSCS computerized handoff is another example of how patient experience, safety, and regulating agencies guide the decisions organizations make to shift their focus from previous practices.

Implementing and sustaining NSCS computerized handoff will affect nursing

practice in a variety of ways. As with any change, there will be those who resist change and barriers that make the transition challenging. That has proven to be true in this project. The month-long pilot study gave time to field questions, doubts, and feedback regarding what each colleague would like to see in the computerized template. The computerized template will change the practice of the nutrition support nurse and the way patient data is recorded as well as the location of documentation. Although this seems like a small change in practice, any change calls for a new way of thinking and a willingness to try new practices. In the nutrition support practice at a large Midwest practice, nurses have been accustomed to handing off to one another via a manual notebook keeping track of patient data. The change in recording data via computer will take some time to adjust to and will take trust and patience with each colleague to make those adjustments.

The impact of this project may be small from the nutritional point of view. However, in making the workload each day easier, it will be monumental. The success of implementation will depend on the users' attitudes toward change and their willingness to make those changes. Keeping a positive attitude and providing immediate feedback will be important in helping those who initially resist the process to find common ground with the new practice. It will take a few months to truly understand the impact of this project and determine how best to sustain the computerized handoff template. I can already see where improvement in the template can help.

The NSCS nursing handoff template sets precedence for patient safety and changing nursing practice in the way nurses communicate information to one another to prioritize patient care. The NSCS nursing handoff computer template will help to

provide continuity of care for each patient as team members change each day in caring for the patient. According to Institutes of Medicine report (2008), as workforce hour limits have changed the number of caregivers caring for the same patient, a team approach must be adopted. This will help keep a patient at the center of nurses' focus and create an intentional environment for building a transpersonal caring relationship between a nurse and patient.

The implications for nursing practice from the literature are consistent with one another and align with the intent of this project. According to Hillary and Hicks (2011), computerized handoff is an opportunity to bring efficiency and continuity to a multidisciplinary practice. This new method of charting will provide an exact way of charting and will potentially provide more time with the patient. It will decrease the places needing to keep a record of patient data. Improvements in workflow practices, patients increased perception of safety, and accurate handoff information results in patients who are more likely to gain the trust of the nutrition support nurse. Gaining trust would in turn lead to patients' return to the large Midwest practice for future health care needs (Anderson & Mangino, 2006).

Besides the promotion of better patient care, fiscal improvements and staff satisfaction are also likely outcomes of implementing the computerized handoff template. Nurses are better able to manage their time, experience stronger teamwork and accountability, and validate the importance of prioritizing patient care based on what they have learned from the handoff computerized handoff information. This performance improvement could then result in greater staff retention and increased savings of turnover costs (Anderson & Mangino, 2006; Tidwell et al., 2011).

Leadership's involvement in this project is pivotal to the success and sustainability of the computerized handoff template. The creation of the standardized reporting tool, the discussion of Watson's (2008) Caring Theory concepts, applicability to patient care, and the education provided for the implementation are only as effective and influential as the people leading the cause. As with any significant change, colleagues must see a full commitment to the implementation and have ongoing involvement in the evaluating process. Leaders must remain actively engaged and frequently assess any change without losing focus.

Presenting change to others one works with can create a sense of disruption and anxiety, particularly with a change that significantly impacts habitual practices. Transformational leadership skills are incredibly important in this process, as these skills are what colleagues will witness. Being a transformational leader through implementing a computerized template means challenging others to change based on evidence-based research. It also entails encouraging others when they are having difficulty understanding the issues at hand and structuring conversations to allow for staff growth to self-reflect and determine their own development. Leaders provide resources and opportunities to help others commit to practices that better themselves as people and professionals, with a goal of producing highly productive staff who work toward a common vision. As with any change, colleagues must see some benefit to making the change. Successful outcomes result in high functioning staff who are self-directed within their teams, know what is right, know what is important, and become just as invested in organizational goals as those around them.

As the implementation of the computerized handoff template project continues,

there will need to be a continued evaluation of the impact on the nutrition support nursing practice. There will need to be an encouraging attitude toward the team to sustain the use of the template and share the vision with other stakeholders. Observation and introspective reflection allows leaders to see how change affects people differently. Followers must be able to identify with the leader and see the desired outcome in order to help implement change. Ultimately, this project will require leaders to be persistent, communicate effectively, practice humility, and support others on their part in the use of the template. To share the knowledge gained from this project through publication on the handoff process is a possibility. Review of the literature revealed no research specifically related to nutrition support nurse handoff.

Leaders also have a role in considering health inequities when learning about new practices and attempting to resolve disparities among patients. Computerized handoff places safety as the top priority for every patient, regardless of social or economic background. It is also very important to consider any cultural implications that may come from implementing a new process. Being sensitive to patients' wishes as well as handing off important nutritional data is essential in a successful handoff. Most new initiatives are developed as a result of evidence-based practice, but staff must also take into consideration the effect the change will have on the patient population affected. The implementation of the computerized handoff template is intended for use with any patient. However, nutrition colleagues must remain culturally competent and must get in the habit of reporting patients' desires considering their cultural background.

As a nutrition support coordinator and transformational leader, I feel it is a vital part of my role to remain cognizant of how nursing practices affect patient care, safety,

and experience. It is equally as important to reflect introspectively and remain aware of how decisions will impact those I work with and their response to change. Implementing new practices requires time, commitment, research and support of those impacted by the change. Through the experience of the current nutrition support handoff practice, I determined that a different approach to implementing nutrition handoff was necessary to enhance sustainability and ongoing commitment from colleagues. A review of the research validated that a computerized handoff template is a necessary practice for ensuring optimal patient safety. Also efficiency in handing off patient data and relationship building between staff will enhance continuity of care between nurse and patient. Developing a framework for implementing a computerized handoff template that is inclusive of nursing theoretical models, staff involvement, and a standardized reporting tool was accomplished. Watson's (2008) Caring Theory further supported the implementation through integrating caring processes that establish intentionality in nursing practice as well as with patient care. Intentionality and transpersonal caring in relationships that instill faith and hope in each patient can be strengthened through the continuity in handoff practice by the new handoff template. With the implementation of the computerized handoff template, my goal was to positively impact the communication process in the handoff process, as well as further support my colleagues to thrive and flourish in their practice as nutrition support nurses.

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Appendix A

Nutrition Support Handoff Template

(This will be added to the patient note in FEED, see appendix B for FEED illustration)

S: Reason for admit and need for nutrition support

Ms. JB is a 48 year-old lady admitted one week ago for poor po intake, failure to thrive, and mucositis. Requesting nutritional supplements.

B: background and brief medical history relevant to nutrition

She is day 23 of an Allogenic PBSCT for AML with a 7 kg weight loss since transplant. Hx of AML with salvage chemotherapy and radiation pre-transplant; thrombocytopenia.

A: assessment and daily progress

She is cachectic, has not engrafted, nausea and vomiting, and odynophagia d/t mucositis, unable to meet nutrition needs with general diet. Has had little po intake in the past 5 days but is able to tolerate liquid calories. IV of D51/2NS @ 75ml/hr. for past 4 days. PICC in place in the low SVC. Low serum K+ 2.9, Mg+ 1.2 and Phos+ 1.9 levels and is a refeeding risk.

Wt: 74 kg (-3kg) I/O: 750/600(+150), oral: 350 ml emesis: 150 stool: 600 ml loose

Meds: on Zofran (8mg), Prednisone taper (40 mg till 4/14 then 30 mg), loperamide 4mg

R: Recommendations and follow up plan

Due to mucositis recommend soft diet with nutritional supplements three times per day. Chocolate boost for breakfast. Ensure plus, vanilla at lunch, Carnation Instant breakfast for dinner. This provides an additional 975 calories and 35 grams of protein along with soft diet. Start calorie count, check daily K+, Mg+. and phos. serum levels along with electrolytes due to refeeding risk.

Appendix B

Patient Note Section

Demographic Information: 62 year-old female admitted for SBO from ovarian cancer who is s/p 6/2 Laparotomy; Ileostomy creation; Bowel resection, small; Repair of enterotomies.

Weight: 53kg

FEN: 765/-3107 (-2342) (?don't know if they charted CPN) oral 120, drain 30, ileos. 925 ml UCI/vd 1500/650.

Labs: wnl although K and Phos are trending downward.

Nutrition: sips and chips but is now taking in some broth and popsicles.

Medications: Zofran 12mg, Ativan 3mg po and 0.5mg IV (for anxiety, takes 9mg at bedtime at home)

Per op report from 6/2: In summary, this procedure was palliative in nature in order to address the patient's longstanding small bowel obstruction. There was diffuse disease present consistent with her known recurrent ovarian carcinoma. This was not surgically resectable.

Goals: watch oral intake progression, if still needing CPN consider 12 hr cycle next week. She will need ileostomy diet education. Pain control and anxiety main concern.

Appendix C

FEED Consult Report

(contains entire patient list)

Feed Sheet

Name	NSS	Admit	Age	Admit Wt. (Est. Lean)	Calc. Wt. (I)
Room #		(Consult)	Gender		Calc. Wt. (C) (date)
Clinic #		Last Note	Height	BMI	H-B
Primary Service					REE (date)
Consult Service(s)					
Name	SSB	5/29	38y	100.7 kg	100.7 kg
10-306 –H		(6/1)	M	(76.7 kg)	2090
Clinic #		6/4	179 cm	31.4 kg/m^2	
MED, BMT					

Sign out: w/e: watch for weaning of high dose propofol and increase tf rate. Hearing loss L ear with cochlear implant.
Vit/Min: 6/4 Liq MVM

Consult reason: ?CPN. Mucositis., ARF d/t infection, ALLO SCT on 5/21 for ALL.
Goal calories: 1500-200 kcal
Diet: General cal counts
Tube: NG (6/3/15)
TF Recs: Promote @ 20ml/hr; ProSource two packets TID. The combination of these two products will provide 744 calories and 96 g of protein (1.3 g/kg) with propofol providing the additional calories. Will adjust tube feeding depending on propofol infusion rate.
IV Access: Hickman (null)

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